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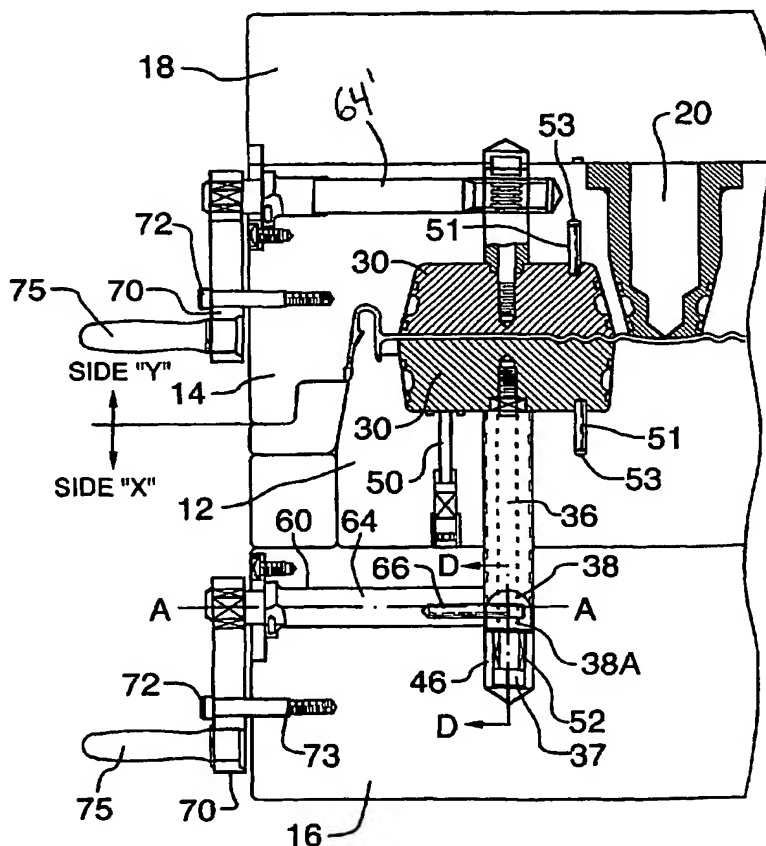
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(54) Title: **INTERCHANGEABLE MOLD INSERT SYSTEM**



(57) Abstract: An insert system for an injection mold apparatus is provided. The mold has a mold cavity plate (14) and a mold core plate (12) each secured to mold bases (16, 18), relatively movable between open and closed positions, each having opposing faces, the faces meeting to define a mold cavity between the two faces. At least one of the mold plate faces defines a facial pocket (40) therein for insertion of a mold insert (30). The mold insert is secured to an insert rod (36). The mold plate having the facial pocket (40) defines a passageway (46) extending from the facial pocket through the plate (12) and mold base (16). The insert rod is insertable into the passageway to a position where the insert sits within said facial pocket at a prelock position, where said insert is only partially inserted into said facial pocket. Preferably the insert is biased in this prelock position. Locking means (64, 66, 38, 70, 74, 76, 101, 63A, 63B) is operably connected to the insert rod (36), operable from the periphery of said mold base, to releasably lock the insert rod within said passage and thus the insert from said prelock position to a fully inserted position where the insert sits flush with the mold plate face.

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AMENDED CLAIMS

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pages 10, 11, 12 are replaced by new pages 10, 11, 12 (3 pages).

CLAIMS:

1. A mold insert system for an injection mold apparatus comprising a mold cavity plate and a mold core plate each secured to mold bases, relatively movable between open and closed positions, each having opposing faces, said faces meeting to define a mold cavity between the two faces, said cavity defining the shape of a molded article, at least one of said faces defining a facial pocket therein for insertion of a mold insert, said facial pocket defining an insert passageway extending from the facial pocket through the plate and base, said mold insert secured to an insert rod, said insert rod insertable into said passageway to a prelock position, whereat said insert is partially inserted into said facial pocket; locking means operable from the periphery of the mold base selectively engaging said insert rod to move said insert and rod between said prelock position and a fully inserted position whereat said insert is fully inserted within said pocket, said locking means releasably securing said insert and rod in said fully inserted position.
2. A mold insert system as recited in claim 1 wherein said locking means comprises cam means operable from the periphery of said mold base, engaging said rod transversely thereto, such that camming of said cam means moves said rod axially within said passageway and thus said insert between said prelock position and said fully inserted position.
3. A mold insert system as recited in claim 2 wherein said cam means is a cam member inserted into a transverse passageway, said transverse passageway communicating with said insert passageway, said cam member engaging said insert rod transversely thereto to move it between said prelock and fully inserted positions.
4. A mold insert system as recited in claim 3 wherein the cam member has an offset cam rod extending axially therefrom, said cam member extending from the periphery of said mold base through said transverse passageway and said cam rod engages the insert

rod transverse to said Insert rod's axis, said cam member rotatable about its axis by means of a cam handle positioned on the periphery of said mold base, said cam handle moving from a first position where said Insert is positioned in said prelock position to a second position whereat said cam member engages and moves said insert rod and insert to said fully inserted position.

5. A mold insert system as recited in claim 4 wherein said cam handle may be locked in said first and second positions.

6. A mold insert system as recited in claim 5 wherein said cam handle is locked by means of dowels insertable through the cam handle into openings adapted for accepting said dowels at the respective first and second positions.

7. A mold insert system as recited in claim 1 wherein said insert and insert rod are biased in the prelock position by means of a spring bumper positioned within the facial pocket.

8. A mold insert system as recited in claim 1 wherein said Insert rod is attached to said insert by means of a screw having a head positioned at a lead end of the rod and extending through said rod engaging said insert.

9. A mold Insert system as recited in claim 1 wherein said Insert and insert rod are biased in the prelock position by a tension spring positioned at said lead end of the insert rod between the screw head and the rod.

10. A mold insert system as recited in claim 5 wherein said insert rod has a transverse groove into which is inserted said offset cam rod.

11. A mold insert system as recited in claim 1 wherein said insert rod is integrally formed

to the insert.

12. A mold insert system as recited in claim 1 wherein said locking means comprises an elongate locking rod rotatable by rotation means positioned at the periphery of the mold base, said locking rod including gear members which engage mating portions of the insert rod and move said insert rod along its axis between the prelock and fully inserted insert positions as said locking rod is rotated about its longitudinal axis.

13. A mold insert system as recited in claim 12 wherein said rotation means is a knob secured to an end of the locking rod extending beyond the periphery of said mold base.

14. A mold insert as recited in claim 12 wherein said rotation means is a handle secured to an end of the locking rod.

15. A mold insert system for an injection mold apparatus having a mold cavity plate and a mold core plate relatively movable between open and closed positions, each having opposing faces, said faces meeting to define a mold cavity between the two faces, said cavity defining the shape of a molded article, each mold plate having a rear portion extending rearwardly from each said face, one of said faces defining a facial pocket therein for insertion of a mold insert, said mold insert secured to said face by securing means, said securing means extending rearwardly from the face of the mold plate and being selectively operable from the periphery of the mold apparatus to selectively secure said mold insert in the facial pocket in a fully inserted position.